

Human Neurofilament Light Chain (NFL) ELISA Kit

Sandwich ELISA for human Neurofilament Light Chain (NfL/NEFL), a sensitive

Biomarker of axonal injury elevated in neurodegenerative diseases, traumatic brain injury (TBI), and demyelinating disorders such as multiple sclerosis.

The Human Neurofilament Light Chain (NFL) ELISA Kit is a quantitative sandwich immunoassay validated for CSF, serum, and plasma. NFL is released from damaged axons and is elevated across a broad range of neurodegenerative and neuroinflammatory conditions including ALS, MS, Alzheimer's disease, Parkinson's disease, and TBI. CSF NFL in healthy adults (~100 pg/mL) through advanced neurodegeneration falls well within the kit's 15.63–1,000 pg/mL detection range; samples above range can be measured with standard dilution.

Neurofilament Light Chain (NfL/NEFL) is a structural protein of the neuronal cytoskeleton and a sensitive biomarker of neuroaxonal injury. Following axonal damage or neuronal degeneration, NfL is released into cerebrospinal fluid (CSF) and can also be detected in blood. Elevated NfL levels have been reported in amyotrophic lateral sclerosis (ALS), multiple sclerosis (MS), Alzheimer's disease, Huntington's disease, Parkinson's disease, and traumatic brain injury (TBI). NfL is widely studied as a biomarker of disease activity, neuroaxonal damage, and treatment response in neurological research. The kit's stated detection range of 15.63–1,000 pg/mL may accommodate many CSF samples, depending on the population and assay conditions. Samples exceeding the upper limit may be quantified following appropriate dilution and validation. Blood sample suitability should be established separately based on the kit's analytical sensitivity and validation data.

- Validated for **CSF**, serum, and plasma
- Pan-neuronal injury marker — elevated across ALS, MS, AD, TBI, and PD
- 96-well breakaway strip format; intra-assay CV <8%; inter-assay CV <10%
- CSF NFL ~100 pg/mL in healthy adults through advanced neurodegeneration — well within the 15.63–1,000 pg/mL detection range

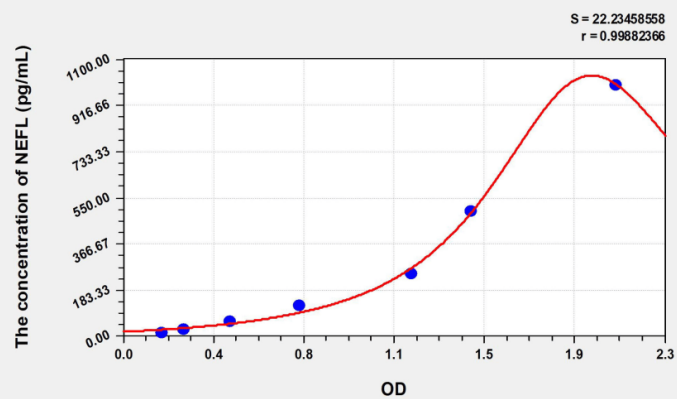
Ordering Information

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ENZ-KIT271-0001	
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Manuals, SDS & CofA

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Representative Standard Curve — Human
Neurofilament Light Chain (NFL) ELISA Kit (ENZ-
KIT271)

Handling & Storage

Use/Stability	When stored and handled as directed, the kit is stable until the expiration date on the label.
Handling	Store at 4°C upon receipt. For extended storage, keep at -20°C. Use before the expiry date printed on the label.
Short Term Storage	+4°C
Long Term Storage	-20°C
Shipping	Blue Ice

Regulatory Status

RUO - Research Use Only

Product Details

Application	ELISA
Application Notes	Quantification of NFL in CSF, serum, and plasma for neurodegeneration biomarker research (ALS, MS, AD, PD, TBI). CSF NFL is well within the kit detection range across healthy and disease states. Serum and plasma are validated matrices; sample concentrations vary by disease state and clinical context.
Assay Time	3.5 hours
Compatibility	Standard 96-well microplate reader capable of reading absorbance at 450 nm.
Contents	Pre-Coated Microplate, 96 well (12 breakaway strips of 8); Standard (Lyophilized); Biotinylated Detection Antibody (100×); Streptavidin-HRP Conjugate (100×); Standard/Sample Diluent Buffer; Biotinylated Antibody Diluent; HRP Diluent; Wash Buffer (25×); TMB Substrate Solution; Stop Reagent; Adhesive Plate Covers
Gene/Protein Identifier	NEFL
Sensitivity	6.6 pg/mL (Detection range: 15.63-1000 pg/mL)
Species Reactivity	Human
Specificity	Human Neurofilament Light Chain (NFL)

Technical Info / Product Notes

Two-step sequential sandwich ELISA. Capture antibody pre-coated on breakaway 96-well strips. Step 1: sample/standard incubation, 37°C, 80 min. Step 2: biotinylated detection antibody, 37°C, 50 min. Step 3: Streptavidin-HRP, 37°C, 50 min. Step 4: TMB substrate, 37°C, 20 min (protected from light). Stop reagent added; read at 450 nm. Intra-assay CV <8%; inter-assay CV <10%. Standard reconstituted in Standard/Sample Diluent Buffer. Do not mix reagents from different lot numbers (exception: TMB, Wash Buffer, Stop Reagent). Azide-free buffers required — azide inhibits HRP color development.

Detection range: 15.63–1,000 pg/mL. Sensitivity: 6.6 pg/mL.

UniProt ID P07196

Wavelength 450 nm



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